

## REMARKS

Preliminarily, it is noted that during prosecution of this case, an amendment was made in December 2007 in which Claims 1, 8, and 15 were amended, and the status of the remaining claims, all of which were original claims, and which had never been amended, was incorrectly indicated as "Previously Presented. This incorrect status was carried through in the amendment filed in July 2008, for which the undersigned attorney apologizes. The status of Claims 2 - 7, 9 - 14, and 16 - 21 has been corrected in this Amendment to the correct status, "Original".

The Examiner rejected Claims 1-21 under 35 U.S.C. §101, stating that updating of error values produces no tangible results, and rejected Claims 1, 8, and 15 on the grounds of nonstatutory obviousness-type double patenting over Claim 2 of US Patent 6,692,088, rejected 1-13 and 15-21 under 35 U.S.C. § 103(a) as being unpatentable over Stumpe, et al. (5,669,678), henceforth referred to as "Stumpe/678", in view of Schubert (6,030,055), henceforth referred to as "Schubert/055", further in view of Schappler et al. (5,560,688, henceforth referred to as "Schappler/688" and rejected Claim 14 under 35 U.S.C. § 103(a) as being unpatentable over Stumpe/678 in view of Schubert/055, further in view of Schappler/688 and further in view of Campau et al. (5,941,608), henceforth referred to as "Campau/608". A response to each of these rejections is presented below.

### Rejections under 35 U.S.C. §101

Independent Claims 1, 8, and 15 have been amended to recite that Independent Claims 1, 8 and 15 have been amended to recite, in pertinent part, "updating a value in a memory device" (emphasis added). Thus, performance of the applicable steps will transform the memory device into a different state, satisfying the requirement under 35 U.S.C. §101 (AT&T Corp. v Excel Communications Inc., 172 F 3d 1352 (Fed Cir 1999)). Support for these amendments is found in, for example, paragraphs 18, 49, and 69 of the application.

### Double Patenting Rejections

Applicant is submitting herewith a Terminal Disclaimer with respect to U.S. Patent No. 6,692,088. Accordingly, the provisional rejection of Claims 1-21 for double patenting is overcome.

### Rejections under 35 U.S.C. §103(a)

Without further going into what the Examiner asserts that Stumpe/678 and Schubert/055 teach, Applicants note that the Examiner acknowledges that Stumpe/678 and Schubert/055 do not, by themselves, teach all the elements of the inventions recited in Applicants' claims. The Examiner seeks to overcome this deficiency by applying the teaching of Schappler/688. The Examiner asserts that " Schappler/688 teaches a commonly well known brake pressure calibration method where the voltage necessary to take a valve of the pressure control system from a de-energized state to a just-closed position with substantially zero seat force is found." The Examiner then references col. 3, lines 9 to 10 of Schappler/688.

Respectfully, the Examiner is misunderstanding the teaching of Schappler/688. The referenced col. 3, lines 9 - 10 of Schappler/688 merely state "As shown in Fig. 2, the inlet valve begins to open only after an actuation value  $Y_v$  is reached because of the initial hysteresis of the valve." This is merely an acknowledgement of the physical characteristics of poppet valves, that, as the undersigned attorney previously attempted to explain to the Examiner, such valves are typically spring loaded toward a normal position. In the case of a normally closed valve like the inlet valve 2 of Schappler/688, a spring holds the valve shut, and until sufficient voltage/current is applied to the solenoid to generate a magnetic pull in the open direction on the movable portion of the valve which is greater than the closing force exerted by the spring, the valve will not begin to open. Schappler/688 estimates that this takes "approximately 40% of maximum current" (col. 3, lines 24-25). There is no "calibration" going on; Schappler/688 does not attempt to determine what this value precisely is, or to map the hysteresis curve for any particular valve. Instead, in

Schappler/688 "The controller (6) compares the command variable  $w$  with the actual value  $x$  in a known manner and, in case of possible deviations, transmits corresponding control signals via amplifiers (7, 8) to the control valves, i.e., to the inlet valve (2) and discharge valve (3), in order to minimize any possible deviations." This is a simple closed loop feedback adaptation to account for all sources of error between the point of generation of the brake demand signal  $w$  and the resultant actual value  $x$  (of pressure at the brake cylinder). There is no teaching in Schappler/688 of determining a current or voltage "necessary to take a valve of the pressure control system from a de-energized state to a just-closed position with substantially zero seat force". The only measurements suggested by Schappler/688 are believed to be those of the magnitude of the brake demand signal  $w$ , the actual brake pressure  $x$ , the pressure of the supply (reservoir 1, and pressure in the exhaust outlet 27.

Furthermore, there is no teaching of changing the way the system responds in a subsequent operation of the vehicle, which is to say, more specifically, that there is no teaching of (as recited in Claim 1) "updating a value in a memory device representing the voltage necessary to take a valve of the pressure control system from a de-energized state to a just-closed position with substantially zero seat force based at least in part upon the value of the error calculated", or (as recited in Claim 8) "updating a value in a memory device representing the voltage necessary to take the valve from a de-energized state to a just-closed position with substantially zero seat force based at least in part upon the estimated boundary value", or (as recited in Claim 15) "updating a value of a memory device representing the voltage necessary to take a valve of the pressure control system from a de-energized state to a just-closed position with substantially zero seat force based at least in part upon the value of the error calculated".

Thus, it is believed that amended Claims 1, 8 and 15 are patentable over the art of record and Applicants request that the Examiner's rejections of Claims 1, 8 and 15 be withdrawn.

Regarding Claims 2-7, 9-14, and 16-21, these claims are all dependent from Independent Claims 1, 8 and 15, respectively and contain all of the limitations recited

therein. Accordingly, Applicants believe that Claims 2-7, 9-14, and 16-21 are patentable over the art of record and respectfully request that the Examiner withdraw his rejection of these claims.

In view of the amendments and above remarks, it is believed that the application is in condition for allowance.

Respectfully submitted,

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